

Applicant : Marohl et al.
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Filed : September 8, 2003
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Attorney's Docket No.: 05542-527001 / 008218/CMP

REMARKS

In reply to the Office Action of July 13, 2005, applicant submits the following remarks. Claims 1, 5, 6, 8-9, 14, 17 and 19 have been amended. Claims 2-4 and 20 have been cancelled. Claims 21-23 are new. No new matter has been added. Claims 1, 5-19 and 21-23 are now pending after entry of this amendment. The specification has been amended on page 3 to delete a typographical error and to update the identification of a patent. Applicant believes the amendment to the specification addresses the Examiner's concerns. Applicant respectfully requests entry of the amendments and reconsideration in view of the foregoing amendments and these remarks.

Section 112 Rejections

Claims 5, 6-8, 17, 19 and 20 were rejected under 35 U.S.C. § 112, ¶ 2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The applicant respectfully disagrees.

Claims 6, 17 and 19 have been amended to add the word "toward" to clarify the claims.

Section 102 Rejections

Claims 1-4, 5, 10, 12, 14, 15, 17 and 18

Claims 1, 5, 10, 12, 14, 15, 17 and 18 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,643,061 ("Jackson"). The applicant respectfully disagrees.

Claim 1 is directed to a retaining ring. The ring has a generally annular body having a top surface, a bottom surface, an inner diameter surface, and an outer diameter surface. The outer diameter surface includes a vertical surface, a tapered section and an outwardly projecting flange. The flange has a lower surface parallel to the upper surface of the annular body. The vertical surface is adjacent to the bottom surface. The tapered section extends upwardly and outwardly from the vertical surface to the lower surface of the flange.

Jackson describes a retaining ring 49 with a perimeter groove 91 for separating an outwardly extending flange 93 from the body of the retaining ring (Fig. 6, col. 5, lines 10-21).

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Jackson fails to suggest or describe a retaining ring with a vertical surface adjacent to a bottom surface and a tapered section that extends upwardly and outwardly from the vertical surface to a lower surface of a flange. For at least this reason, the applicant submits that Jackson does not anticipate claim 1 as amended. Claims 5, 10 and 12 depend from claim 1 and are similarly not anticipated by Jackson.

Claim 14 is directed to a retaining ring for a carrier head for use in chemical mechanical polishing. The ring has a generally annular lower portion and a generally annular upper portion secured to the lower portion. The lower portion and the upper portion each have a tapered section and the tapered sections form a unitary tapered section when the upper and lower portions are secured together.

Jackson does not describe a retaining ring have an annular lower portion secured to an annular upper portion, where each portion has a tapered section. For at least this reason, the applicant submits that Jackson does not anticipate claim 14 as amended. Claims 15, 17 and 18 depend from claim 14 and are similarly not anticipated by Jackson.

Claim 19

Claims 19 was rejected under 35 U.S.C. § 102(b) as being anticipated by either U.S. Patent No. 6,224,472 ("Lai") or U.S. Patent No. 6,143,127 ("Perlov"). The applicant respectfully disagrees.

Claim 19 is directed to a retaining ring with an inner diameter with a continuously tapered surface and a cylindrical vertical surface, wherein the continuously tapered surface is adjacent to an upper surface of the retaining ring and the cylindrical vertical surface is adjacent to a bottom surface of the retaining ring.

Lai describes a retaining ring 50 with a tapered bottom surface 68 (FIGs. 9 and 10, col. 15, lines 6-12). The tapered bottom surface 68 is serrated.

Lai does not include a continuously tapered surface. For at least this reason, the applicants submit that claim 19 is not anticipated by claim 19.

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Perlov shows a retaining ring 108 with an inner diameter having an inclined portion 150 which extends from a lower surface 142 of the retaining ring 108 (FIGs. 4, 6A, 6B and 6C, col. 5, lines 37-50).

Perlov does not suggest or disclose a continuously tapered surface adjacent to an upper surface of the retaining ring. For at least this reason, the applicant submits that claim 19 is not anticipated by Perlov.

Section 103 Rejections

Claims 1, 6-9, 11-16 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Jackson, over Perlov in view of Jackson or Jackson in view of U.S. 6,089,961 ("Cesna"). The applicant respectfully disagrees.

Cesna describes a ring extension 30 having a vertical surface adjacent to a top surface and an inwardly curving surface extending from the vertical surface (FIG. 2, col. 5, lines 49-51). Cesna also describes an extension ring 30 with cross section that is rectangular at the bottom and projects outward at the top (FIG. 3). The bottom portion meets the projection at a right angle.

Regarding claims 1, 2, 6-9 and 11-13, Jackson, Perlov or Cesna each fail to suggest or disclose a retaining ring with an annular body with an outer diameter having an outer vertical surface, a tapered section and an outwardly projecting flange having a lower surface parallel to a top surface of the annular body, the vertical surface being adjacent to the bottom surface and the tapered section extends upwardly and outwardly from the vertical surface to the lower surface of the flange, as required by claim 1. For at least this reason, the applicant submits that no *prima facie* case of obviousness has been made with respect to claim 1 or claims 6-9 and 11-13, which depend therefrom.

Regarding claims 14-16 and 18, Jackson, Perlov or Cesna each fail to describe a retaining ring have an annular lower portion secured to an annular upper portion, where each portion has a tapered section and the tapered sections form a unitary tapered section when the upper and lower portions are secured together. For at least this reason, the applicant submits that no *prima facie*

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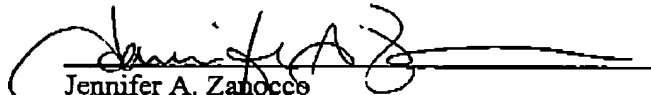
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case of obviousness has been made with respect to claims 14 or 15-16 and 18, which depend therefrom.

Please apply the one-month extension of time fee in the amount of \$120 and any other required charges or credits to deposit account 06-1050. ✓

Respectfully submitted,

Date: Nov 14, 2005


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